



STATE OF CONNECTICUT

DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546



Determination of Effect on Historic Properties

Author:	Lucas A. Karmazinas	Date:	March 11, 2021
Project:	State No.: 121-136 F.A.P. No.: 6121(TBD) Project Title: Rehabilitation of Bridge #05200 Salmon Kill Road over Salmon Creek Town: Salisbury		
Determination of Effect:	No Adverse Effects to Historic Properties, Conditional		

Project Description

Using federal and local funds, the Connecticut Department of Transportation (CTDOT) proposes to rehabilitate Bridge #05200, which carries Salmon Kill Road over Salmon Creek in Salisbury. The structure was built in 2002 and consists of a 51'-long, single-span, prestressed concrete deck unit bridge with reinforced concrete abutments and wingwalls with a concrete formliner, bituminous concrete wearing surface, concrete curbs, and three-tube aluminum railings with masonry endblocks. The statewide bridge database maintained by CTDOT identifies the bridge as being Not Eligible for listing on the National Register of Historic Places (NRHP) and Qualified Staff at CTDOT's Office of Environmental Planning (OEP) concurs with this assessment.

Bridge #05200 is in overall "intolerable" structural condition, this due to deterioration of the substructure, which has been classified as being in "serious" (rating 3) condition. The proposed project will involve replacement of the east abutment and superstructure, repairs to the west abutment, and ancillary work along the roadway approaches. All work will take place within the roadway ROW, however, as appropriate ROW was not acquired at the time of the bridge's construction, defined easements will be executed in order to allow for future inspection and maintenance.

As a portion of the project funding is provided by the Federal Highway Administration (FHWA), the undertaking falls under the purview of Section 106 of the National Historic Preservation Act and will be reviewed under the provisions

of the Programmatic Agreement executed between CTDOT, FHWA, the Connecticut State Historic Preservation Officer (CT SHPO), and the Advisory Council on Historic Preservation regarding compliance with Section 106 of the National Historic Preservation Act (NHPA) for Minor Transportation Projects.¹

Technical Review of Project

Bridge #05200 is a single-span, prestressed concrete deck unit bridge that carries Salmon Kill Road over Salmon Creek in the Lime Rock section of Salisbury (Images 1-6). The bridge was built in 2002 and it has reinforced concrete abutments and wingwalls with concrete formliner, seven prestressed concrete deck units, a bituminous concrete wearing surface, concrete curbs, and three-tube aluminum railings with stone masonry endblocks. Steel-backed timber guiderails supported by wood posts flank the approaches and tie into the endblocks. The bridge has a span length of 46' and measures 51' long, 26'2" curb-to-curb, and 29'2" wide. The approach skew is 16 degrees. The structure carries two lanes of traffic, one in each direction, and both the bridge and the approaches lack sidewalks and shoulders. Salmon Kill Road is classified as a Rural Local Road and has an average daily traffic count of 538. Bridge #05200 is categorized as Not Eligible for listing in the NRHP in the statewide bridge inventory database maintained by CTDOT and OEP cultural resources staff concur with this categorization.

Recent inspections show that Bridge #05200 is in "intolerable" condition, this due to the substructure having been appraised as "serious" (rating 3). Specifically, the east abutment exhibits a total of 260 square feet (\pm) of severe scale, hollow areas, and spalling with efflorescence. The deterioration is most severe on the northern end. The lower portion of the abutment, in the scaled/spalled areas, has 3" to 8" average depth of deterioration. The seat (supporting the bearings) has a 15" of deterioration, on average, thus exposing the front face of bearings 1 through 10 (under beams 1 through 5). The deterioration has exposed the end of deck units 1 and 2. An isolated area located between bearings 2 and 3 has up to 15" of deterioration. The northwest corners of bearings 1 through 3 (under beams 1 and 2) are undermined up to 4" deep. The concrete in these areas is in very poor condition and can be easily removed. The west abutment, on the other hand, is in much better condition, yet exhibits one full-height by 1/32" vertical crack in the formliner and there is evidence of leakage from the joint above at two locations. Evidence of active leakage was also noted at the north end of the abutment. These areas were sounded and are solid.

The proposed project will involve replacement of the bridge's east abutment, minor repairs to the west abutment, and replacement of the bridge superstructure (Image

¹ *Programmatic Agreement among the Federal Highway Administration, the Connecticut Department of Transportation, the Connecticut State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Implementation of Minor Transportation Projects*, signed October 26, 2012 and revised May 4, 2018. Accessible online at: www.ct.gov/culturalresources.

13). The precast deck units will be overlain with a 6"-minimum, cast-in-place concrete shear slab, waterproof membrane, and 3" bituminous wearing surface. The shear slab will provide added protection to the deck units from water infiltration as well as protection from future milling operations. Approach slabs will be constructed for added protection against any possible future leakage. The total structure length will remain at 51' and will provide approximately a 44.5' clear span. The structure will be built in the existing structure's footprint, with the eastern abutment replaced and supported by micropiles, while the existing eastern wingwalls will remain in place. A roadway width of 26' 2", consisting of 11' travel lanes and 2' 1" shoulders in each direction, will be provided. Open bridge rail, mounted to the cast-in-place concrete curb, will be installed along the structure and terminate into concrete end blocks located at all four corners of the bridge. The end blocks will utilize a concrete formliner to replicate aesthetics from the existing structure, and new steel-backed timber guiderail will be installed along both approaches. Incidental work on the approaches will include milling and paving of the roadway, and in-kind repairs to a riprap-lined splash pad located within the ROW just east of the bridge.

No permanent property acquisitions or temporary construction easements will be required by the project, however, as appropriate ROW was not acquired when the bridge was constructed, the northeast and northwest wingwalls currently fall outside of the roadway ROW. As such, defined easements will be executed to provide access for future inspection and maintenance of the bridge. A full closure and detour of the bridge crossing is proposed throughout construction. This will last approximately 6 to 8 months.

Area of Potential Effect (APE)

Bridge #05200 is located in the Lime Rock section of Salisbury, an area with a significant industrial history dating to the early 18th century and continuing into the 1920s. As is outlined in the documentation for the Lime Rock Historic District,² this activity began after Thomas Lamb established an iron forge along Salmon Creek around 1735, and evolved into blast furnace and manufacturing operations maintained by the firms of Holley & Coffing and Barnum, Richardson & Co. (later the Barnum-Richardson Company). A bustling industrial village known as Lime Rock developed around and supported these iron works, this largely centered approximately 0.25-mile south of Bridge #05200 along Salmon Kill, Furnace, and Lime Rock Roads, as well as extending southeast along Lime Rock Road roughly as far as Dugway Road. Iron processing and manufacturing in Salisbury ended with the closure of the Salisbury Iron Corporation closed in 1923 and the approximately 326 acres, 27 houses, and numerous ancillary structures were subsequently purchased by Alfred Stone, a New York-based real estate investor in 1925. Stone heavily marketed the former industrial village's bucolic setting to his New York

² National Park Service, *Lime Rock Historic District* (NRHP #84001064), listed July 5, 1984.

clients and it soon evolved into a popular artist community. This renewed interest and investment allowed the area to avoid the decay that might otherwise have plagued a rural village after the loss of its primary employer and today Lime Rock retains much of its historic character and integrity.

A crossing carrying Salmon Kill Road over Salmon Creek is visible on maps from 1859 and 1874, as well as aerial imagery from 1934, 1951, and 1965, however, the vintage or character of the bridge replaced in 2002 under State Project #121-126 is unclear (Images 7-10). The property at 396 Salmon Kill Road is included as a contributing resource in the Limerock National Register Historic District, and a sign located just southeast of the bridge identifies the establishment of Lamb's Forge in the vicinity in 1735.

The project's Area of Potential Effect (APE) is centered on Bridge #05200 and includes an approximately 250' x 75' work area, this entirely located within the roadway ROW (Image 13). This APE encompasses the area that will foreseeably be required to prepare the project area, access the bridge, and complete the project. Properties within or abutting the APE include:

0 Salmon Kill Rd. (MBLU# 8/15/2)

This undeveloped 26.55-acre parcel is located on the east side of Salmon Kill Road approximately 100' east of Bridge #05200. The property is bounded to the west by Salmon Kill Road and is entirely wooded.

No impacts to this property are anticipated.

0 Salmon Kill Rd. (MBLU# 8/5)

This undeveloped 20.7-acre parcel is located on the east side of Salmon Kill Road approximately 250' northeast of Bridge #05200. The property is bounded to the west and north by Salmon Kill Road and extends to the northeast to as far as Salmon Kill Road's intersection with Brinton Hill Road. The property is entirely wooded.

No impacts to this property are anticipated.

375 Salmon Kill Rd. (MBLU# 8/4/3)

This 1.0-acre parcel is located on the west side of Salmon Kill Road approximately 700' north of Bridge #05200. The property is bounded to the east by Salmon Kill Road and to the west by Salmon Creek. The property is developed with a one-story, wood-frame, Ranch-style residence with wood shingle siding built to replace an earlier structure on the site in 1960. A small lawn surrounds the house, this framed with woods that also occupy the remainder of the parcel.

No physical impacts to this property are anticipated, however, as appropriate ROW was not acquired when the bridge was constructed, a

defined easement will be executed to provide access for future inspection and maintenance of the bridge.

394 Salmon Kill Rd. (MBLU# 8/15/3)

This 14.49-acre parcel is located on the south side of Salmon Kill Road immediately southeast of Bridge #05200. The property is bounded to the northwest by Salmon Kill Road and to the west by Salmon Creek. The property is developed with a one-and-a-half-story, wood-frame, Tudor-style residence with clapboard siding built in 1991. An asphalt-paved driveway leads from Salmon Kill Road just 50' east of Bridge #05200 and runs due south approximately 675' before reaching the residence. The house is set along the side of a west-facing slope and is surrounded by dense woods.

No impacts to this property are anticipated, however, an interpretive sign identifying the establishment of Lamb's Forge in the vicinity in 1735 is located within the roadway ROW just north of this property and east of Bridge #05200. The sign should be protected in place during construction or removed and reinstated once work is completed.

395 Salmon Kill Rd. (MBLU# 8/4)

This 43.3-acre parcel is located on the north side of Salmon Kill Road immediately northwest and northeast of Bridge #05200. The property is bounded to the southeast and east by Salmon Kill Road and Salmon Creek flows north-to-south just within the parcel's eastern boundary. The property is developed with a two-story, wood-frame, Tudor Revival-style residence with wood shingle siding built in 1931. An asphalt-paved driveway leads from Salmon Kill Road roughly 375' east of Bridge #05200 and runs due north approximately 0.2-mile before reaching the residence. The house is surrounded by a landscaped lawn dotted with mature trees. A large field is located just north of Salmon Kill Road, while the majority of the remainder of the parcel is wooded. A wood rail fence lines the boundary of the parcel along Salmon Kill Road west of Bridge #05200 and runs into a stone masonry gateway flanking the driveway entrance before continuing on to the southwest corner of the property.

No physical impacts to this property are anticipated, however, as appropriate ROW was not acquired when the bridge was constructed, a defined easement will be executed to provide access for future inspection and maintenance of the bridge.

396 Salmon Kill Rd. (MBLU# 8/3)

This 8.0-acre parcel is located on the south side of Salmon Kill Road immediately southwest of Bridge #05200. The property is bounded to the north and northwest by Salmon Kill Road and to the east by Salmon Creek. The property is developed with a one-and-a-half-story, wood-frame, Cape

Cod Cottage-style residence with clapboard siding built in 1960, and a one-story, wood-frame vernacular residence with wood shingle siding built ca. 1800, the latter located approximately 150' north of the main house. An asphalt-paved driveway leads from Salmon Kill Road roughly 575' southwest of Bridge #05200 and runs southeast approximately 650' before reaching the property's primary residence.

This parcel is the only property located within the project area that is included in the Limerock National Register Historic District. The property is identified as a contributing resource within the district, however, neither the issue of the primary residence's modern construction date or the presence of the ca. 1800 cottage is addressed. The property is identified as the former site of the 1735 Lamb Forge, one of the earliest and most important iron forging locations in Salisbury, and two dams formerly associated with this and later associated activities are located along Salmon Creek east of the main house.

No impacts to this property are anticipated.

With the exception of 396 Salmon Kill Road, none of the properties within the APE appear to possess the exceptional historical or architectural significance that would qualify them for listing on the NRHP. The property at 395 Salmon Kill Road is notable as a fine example of Tudor Revival-style architecture dating from the period of the area's popularity as an artist community, however, the period of significance for the Lime Rock Historic District does not extend beyond that in which local industry was active and the property does not appear to be of great enough historical or architectural significance to justify individual listing.

Archaeological Conditions Within or Abutting the APE

Digital site records maintained by the Office of the State Archaeologist, as well as OEP's own internally compiled database of historic resources and previously conducted cultural resource studies, were consulted for the purpose of identifying any known archaeological sites located the APE. The entirety of the project area was previously evaluated by two archaeological surveys associated with the project to construct the present Bridge #05200, these taking place in 1996 and 1999.³ Both of these studies concluded that work within the proposed project limits did not appear likely to impact Native American or Euroamerican resources eligible for the National Register of Historic Places. The 1996 report also noted, however, that "relatively level ground surfaces west of the construction limits appear undisturbed, and off-road disturbance here associated with equipment storage could impact Native American resources." As such, it was recommended that any equipment

³ Raber Associates, "Archaeological Assessment of the Vicinity of the Salmon Kill Road Bridge, State Project No. 121-126, Bridge No. 05200, Town of Salisbury, Connecticut," October 1996; Raber Associates, "Archaeological Assessment of the Vicinity of the Salmon Kill Road Bridge, State Project No. 121-126, Bridge No. 05200, Town of Salisbury, Connecticut," December 1999.

storage and work areas west of the bridge be limited to the existing bridge approaches or roadway, and that any need for work areas or storage in this area would require further archaeological survey. The project limits for the proposed project are located entirely within the roadway ROW and are far less expansive than those evaluated in 1996 and 1999, however, similar conditions are recommended at the present time (Images 12-13). Should all work and storage activities avoid the aforementioned areas, however, OEP Qualified Staff has determined that there is minimal foreseeable potential to impact intact, NRHP-eligible archaeological resources within the project area and no further study is recommended.

Conclusion

Qualified cultural resources staff from OEP conducted background research and reviewed the project scope. While OEP staff determined that one of the properties abutting the project area is included in the Lime Rock Historic District, no effects to this property are anticipated. Furthermore, based upon information gleaned from two previous archaeological reconnaissance surveys of Bridge #05200 and the vicinity, there is minimal foreseeable potential to impact potentially intact archaeological resources near the project area provided that the following conditions are met:

- Any equipment storage or work areas on the west side of the bridge shall be limited to the existing approaches or roadway beyond.
- The historical signage associated with Lamb's Forge shall be preserved in place or removed during construction and restored to its current location immediately southeast of Bridge #05200 upon the completion of the project.

If these conditions can be met, OEP recommends that the proposed project will result in No Adverse Effects to Historic Properties and no further consultation with the Connecticut State Historic Preservation Officer (CTSPHO) is required. A copy of this determination will be included in the quarterly report of Minor Transportation Projects that is submitted to CTSHPO.



Lucas A. Karmazinas
National Register Specialist
Office of Environmental Planning
Connecticut Department of Transportation

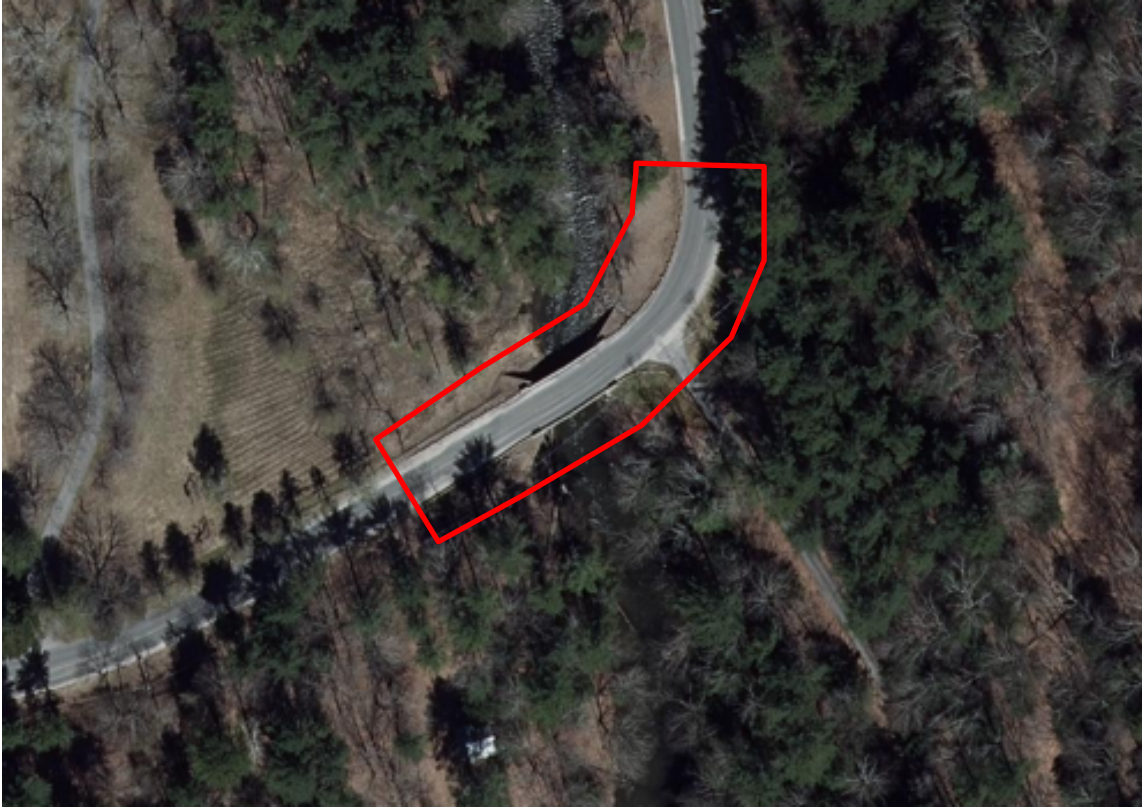


Image 1: 2019 aerial image of project site and vicinity. Approximate project area identified in red.



Image 2: North (upstream) face of Bridge #05200 looking southwest from the east bank of Salmon Creek.



Image 3: North (upstream) face of Bridge #05200 looking southeast from the west bank of Salmon Creek. Note extensive deterioration of the east abutment.



Image 4: South (downstream) face of Bridge #05200 looking north from the west bank of Salmon Creek.



Image 5: Bing.com Streetview image (2015) looking northeast along Salmon Kill Road towards Bridge #05200.



Image 6: Bing.com Streetview image (2015) looking southwest along Salmon Kill Road towards Bridge #05200.

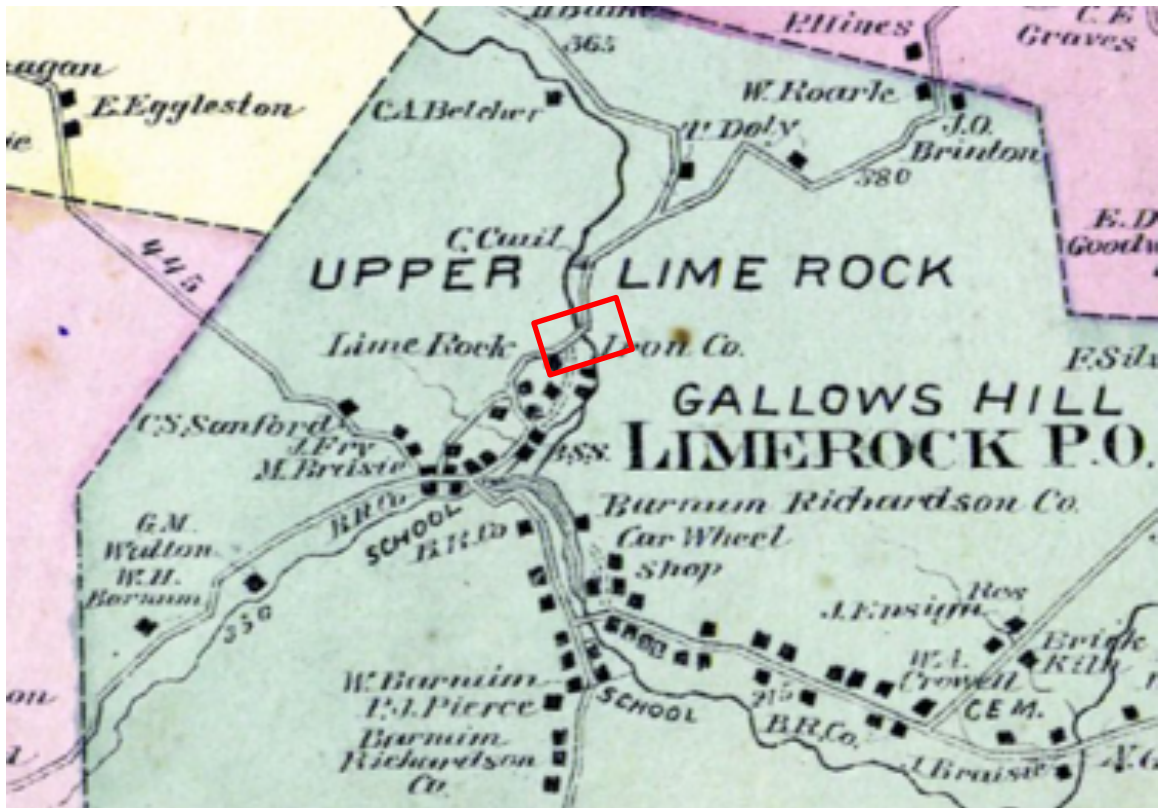


Image 7: 1874 aerial image of project site and vicinity. Approximate project area identified in red.



Image 8: 1934 aerial image of project site and vicinity. Approximate project area identified in red.

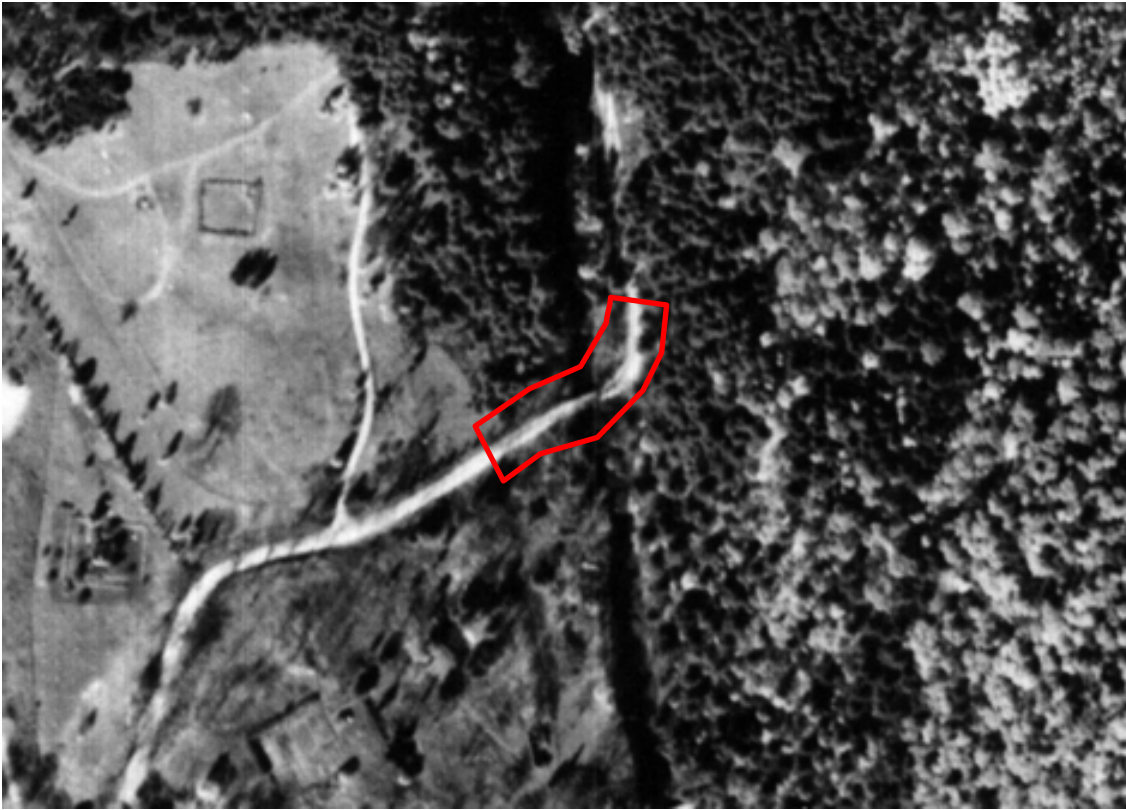


Image 9: 1951 aerial image of project site and vicinity. Approximate project area identified in red.



Image 10: 1965 aerial image of project site and vicinity. Approximate project area identified in red.

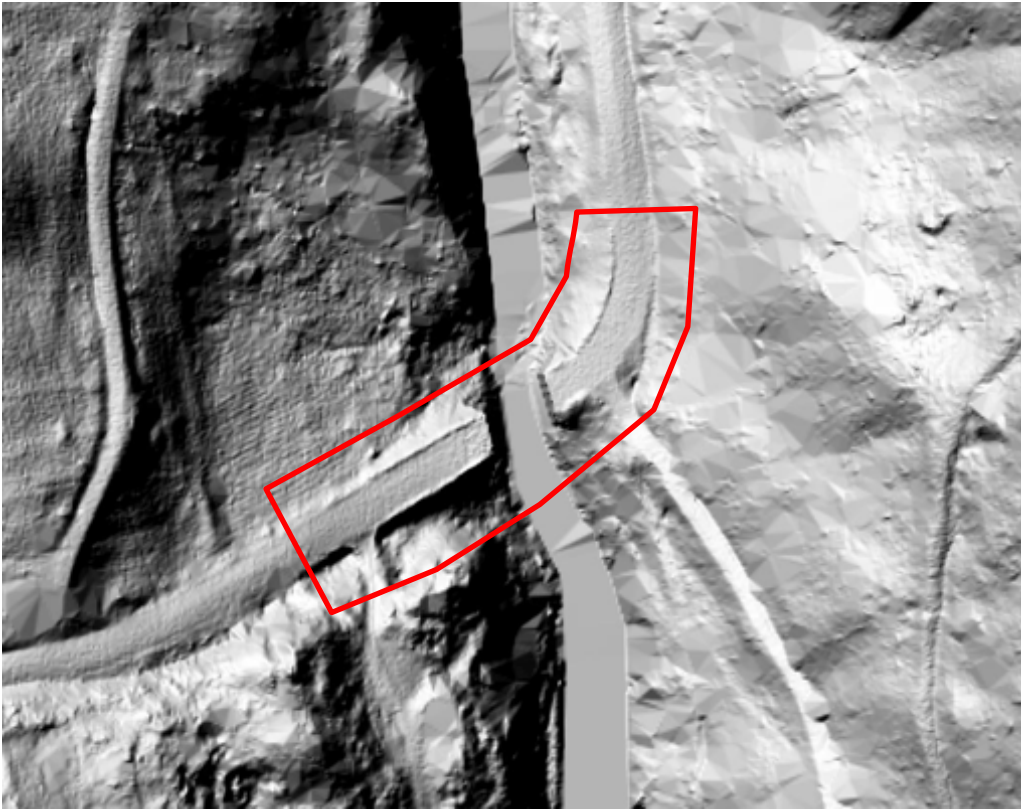


Image 11: 2016 LiDAR image of project site and vicinity. Approximate project area identified in red.

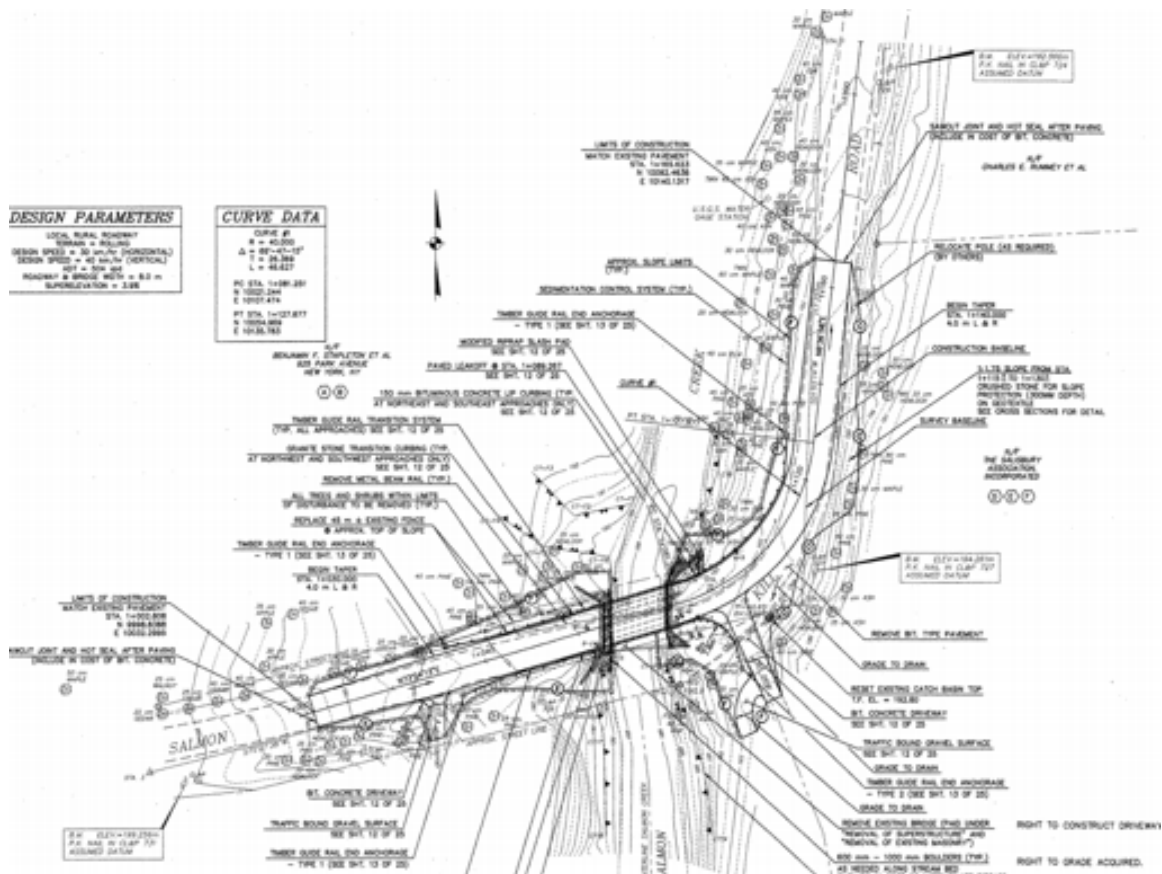


Image 12: Detail from the 2000 project plans for the construction of Bridge #05200 (State Project #121-126) showing the limits and character of work involved with construction.

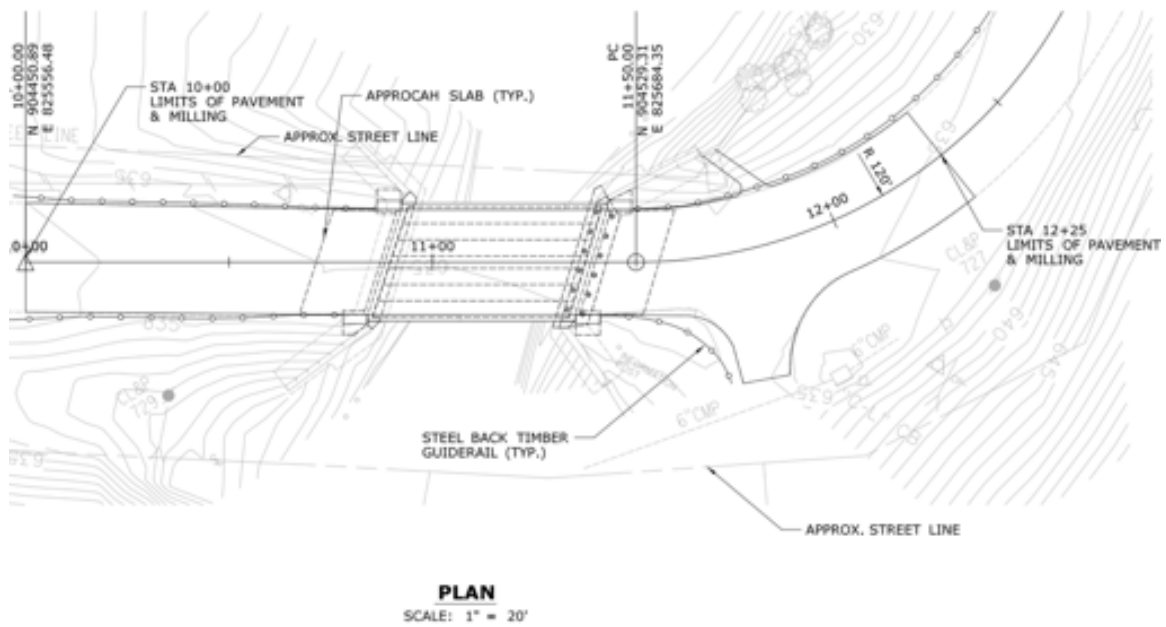
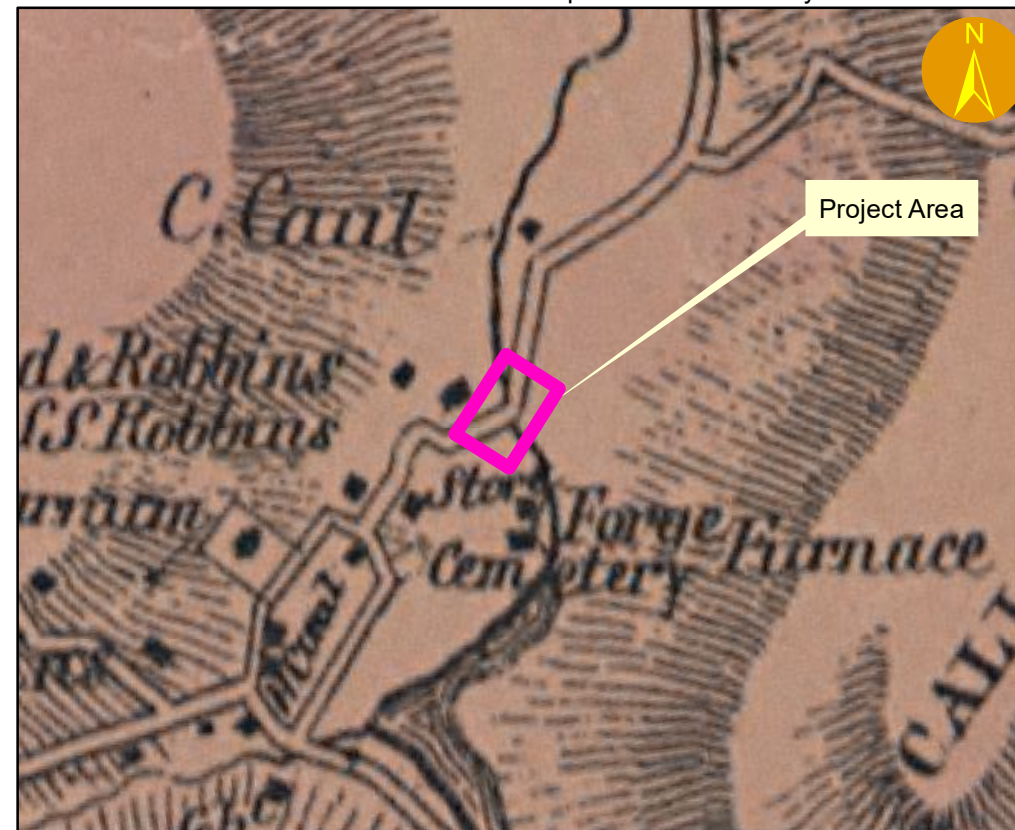


Image 13: Detail of proposed plan for State Project #121-136.

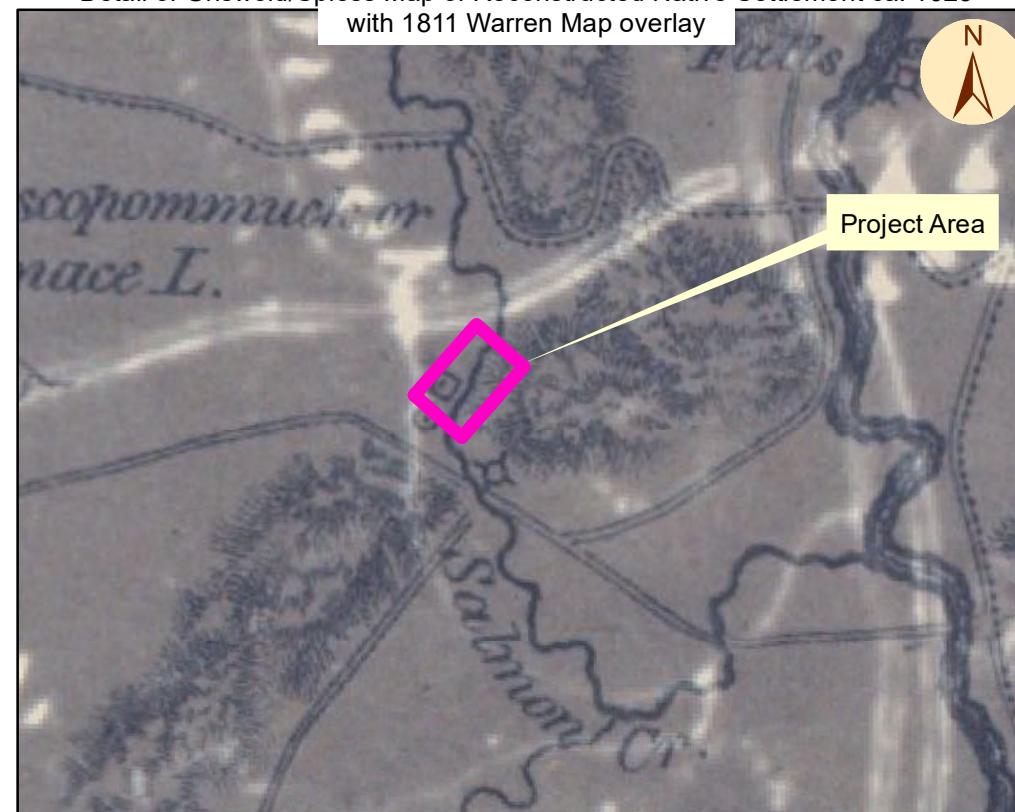
Detail of 2019 Aerial Photography



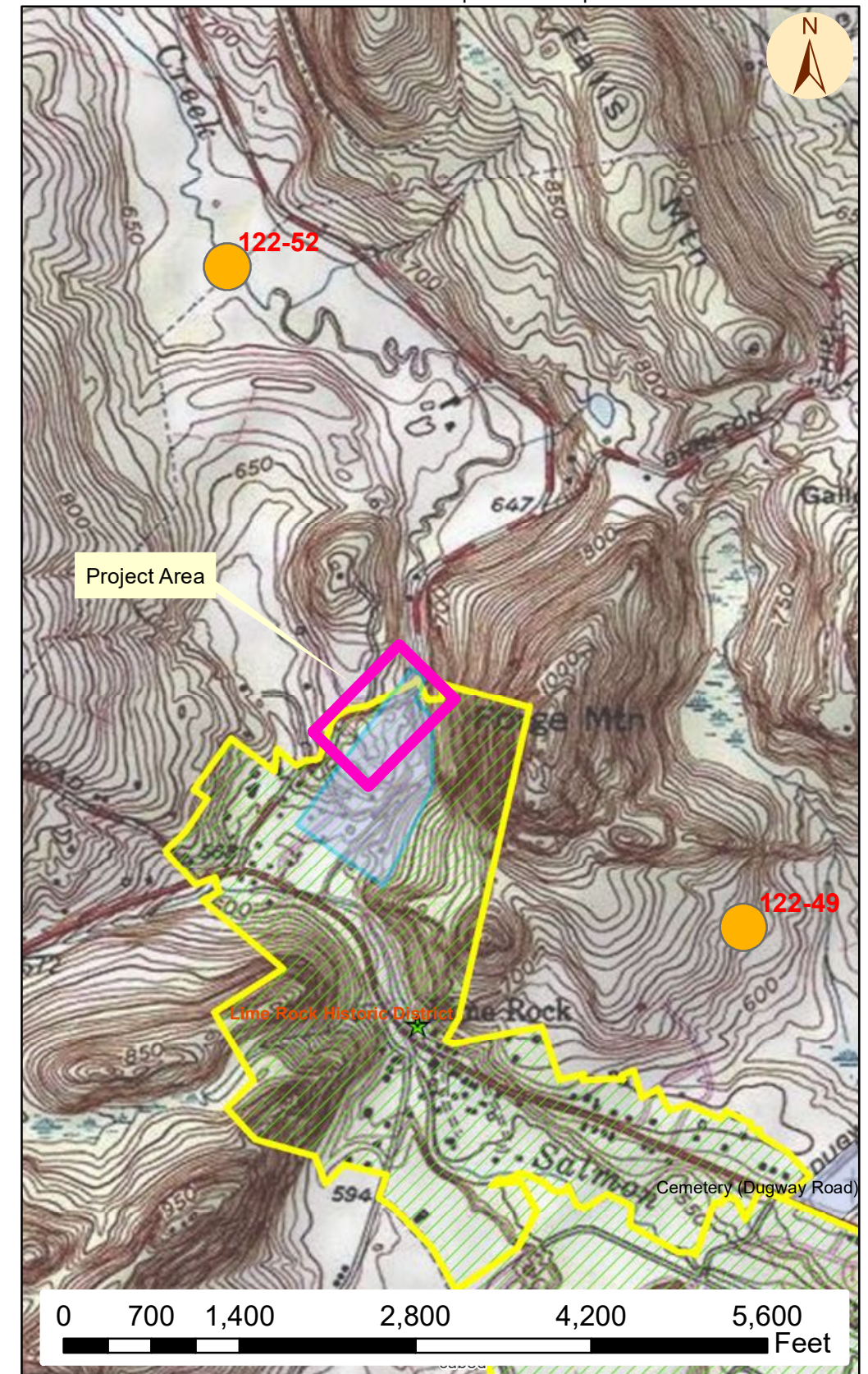
Detail of 1857 Woodford Map of Litchfield County



Detail of Griswold/Spiess Map of Reconstructed Native Settlement ca. 1625 with 1811 Warren Map overlay



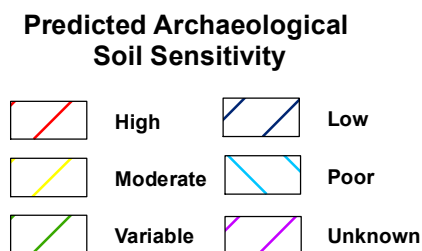
Detail of USGS Topo Quad Map



Office of Environmental Planning Environmental Review - Historical and Archaeological Resources

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